

REMARKS

Rejections under 35 U.S.C. § 102

On page 2 of the Office Action, the Examiner has rejected claims 1, 13-15, 21, 26, 27, 33, 52 and 54 under 35 U.S.C. § 102(b) as being anticipated by Wood et al. (6,407,478).

Applicants respectfully traverse this rejection.

Wood et al. discloses a microelectromechanical device including first and second beam members that have respective first and second ends connected to anchors. The microelectromechanical device is characterized by the first and second beam members being connected using a dielectric tether located *under* the beam members.

Applicants respectfully assert that independent claims 1, 27 and 52 of the application are patentably distinguishable over the Wood et al. reference. In order for a reference to anticipate a claim, the reference must teach every element of the claim. In the instant application, claims 1, 27 and 52 each recite (emphasis added) a “dielectric tether attached *over* the common end of the portions of the hot arm member and the free end of the cold arm member” to mechanically couple the hot arm member and the cold arm member and keep them electrically independent.

Wood et al. does not anticipate claims 1, 13-15, 21, 26, 27, 33, 52 and 54 because it does not show the use of a “dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member.” Rather, Wood et al. discloses a dielectric tether located *under* the beam members. There is no disclosure to use a dielectric tether attached *over* the common end of the portions of the hot arm member and the free end of the cold arm member to mechanically couple the hot arm member and the cold arm member and keep them electrically independent. Therefore, it is submitted that the Wood et al. reference does not anticipate claims 1, 13-15, 21, 26, 27, 33, 52 and 54 in view of the fact that all of the limitations

of the claims are not met.

Further, Applicants disclose that the dielectric tethers of the present invention, including their attachment over the common end of the portions of the hot arm member and the free end of the cold arm member, are used to mechanically couple the hot arm member and the cold arm member and keep them electrically independent, thereby maintaining them in a spaced-apart relationship with a minimum spacing between them to avoid a direct contact or a short circuit in normal operation as well as to maintain the required withstand voltage, which voltage is proportional to the spacing between the hot and cold arm members. (see page 5, lines 22-26). The dielectric tethers of Wood et al. cannot be arranged into a configuration over the common end of the portions of the hot arm member and the free end of the cold arm member as claimed in Applicants' invention. Thus, Wood et al.'s disclosure of a dielectric tether arranged under the beam members is contrary to the claimed invention.

Additionally, the dielectric tether provided under the beam members, such as those of Wood et al., are typically made of glass and use thin layers of silicon oxide or nitride and are disadvantaged by being fragile and having increased complexity of the manufacturing process. Applicants' invention discloses a microelectromechanical actuator quite different from the microelectromechanical device discussed in Wood et al.

Claims 13-15, 21, 26, 33, and 54 are dependent on, in one form or another, claims 1, 27 and 52. Therefore, Applicants respectfully submit these claims are allowable for the same reasons as given with respect to claims 1, 27 and 52

Therefore, since Wood et al. fails to teach or disclose the use of a dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member, Applicants respectfully submit Wood et al. does not anticipate or render obvious

any of the pending claims. Accordingly, claims 1, 13-15, 21, 26, 27, 33, 52 and 54 is in condition for allowance and Applicants respectfully request a withdrawal of this rejection.

Rejections under 35 U.S.C. § 103

On page 2 of the Office Action, the Examiner has also rejected claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 under 35 U.S.C. § 103(a) as being unpatentable over Wood et al. (6,407,478). Applicants note that the Examiner has separately rejected claims 33-37.

Applicants respectfully traverse the rejections. The Applicants respectfully submit that the §103 rejection of claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 should be withdrawn as the rejections set forth in the Action fail to demonstrate that Wood et al. teaches or suggests all of the elements of claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37. Further, Applicants believe that the Action fails to provide sufficient motivation that would compel one with skill in the art to modify Wood et al. to include all the features of claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37.

Specifically, Wood et al. does not teach or suggest a “dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member” as required by independent claims 1, 27 and 52, upon which claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 depend. Nor does Wood et al. teach or suggest “different types of materials of the dielectric tether, many dielectric tethers mounted along the bars, and many switching configurations,” as admitted by the Examiner. (Office Action, page 2).

There is no teaching or suggestion of a dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member in Wood et al., or a microelectromechanical actuator having the “different types of materials of the dielectric tether, many dielectric tethers mounted along the bars, and many switching configurations” as disclosed

in the present application. Therefore, the Applicants respectfully submit that the Office Action fails in its burden of establishing that Wood et al. teaches or suggests all of the elements of claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37.

Even if this reference was properly combinable, Wood et al. alone or in combination with the knowledge of one of ordinary skill in the art at the time the invention was made does not disclose or render obvious Applicants' invention. Specifically, the combination of this reference and the reasons given by the Examiner for the combination do not disclose what is required by the Applicants' claims – a dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member. This combination also does not teach or suggest a dielectric tether expressly or inherently having the claimed requirements of Applicants' microelectromechanical actuator. It is advantageous to provide a microelectromechanical actuator that has a dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member. One advantage to using the microelectromechanical actuator of the present invention is that it keeps the arm members electrically independent, thereby maintaining them in a spaced-apart relationship with a minimum spacing between them to avoid a direct contact or a short circuit in normal operation as well as to maintain the required withstand voltage, which voltage is proportional to the spacing between the hot and cold arm members. (See page 5, lines 22-26).

In conclusion, it is believed that the Action has failed to establish a prima facie case for obviousness of claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37. It is the Examiner's burden to show that the prior art relied upon coupled with the knowledge generally available in the art at the time of the invention must contain a suggestion or incentive that would have motivated one of ordinary skill in the art to combine references. The Examiner must also show

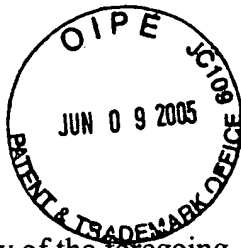
that the proposed combination must have a reasonable expectation of success. It is inappropriate for the Examiner to use the present application as a motivation to combine the references. This inappropriate combination, taking bits and pieces from each reference in an attempt to create Applicants' invention, is exactly what the Examiner has done.

The Applicants respectfully submit that claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 are allowable for the same reasons as given with respect to claims 1, 13-15, 21, 26, 27, 33, 52 and 54. As claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 are dependent on, in one form or another, claims 1, 27 and 52, Applicants respectfully submit that these claims are allowable for the same reasons as given with respect to claims 1, 27 and 52.

In view of the aforesaid, it is respectfully submitted that claims 2-12, 16-20, 22-25, 28-32, 34-51, 53 and 33-37 are not obvious. Applicants believe to have set forth throughout this response differences distinguishing the claimed microelectromechanical actuator over the Wood et al. reference. Absent any legally recognized motivation as discussed herein above, it is respectfully submitted that one would not/could not achieve the result which is now set forth in the claims for the reasons discussed above.

Therefore, since Wood et al. fails to teach or disclose a microelectromechanical actuator, including a dielectric tether attached over the common end of the portions of the hot arm member and the free end of the cold arm member, Applicants respectfully submit it does not anticipate or render obvious any of the pending claims.

Applicants respectfully request favorable reconsideration of the claimed invention and early issuance of the Notice of Allowance.



Conclusion

In view of the foregoing, it is submitted that each of the claims 1-57 are now in condition for allowance and the Notice of Allowance thereof is respectfully requested to be issued. The Examiner is invited to contact the undersigned attorney to discuss any matters pertaining to the present application.

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